

ROLLER ROCKER

FIELD OF INVENTION

The present invention relates to a device for creating indentations in a surface. More particularly, the invention relates at a knurling hand tool and method of using same for preparing a metal plate to be used in the mezzotint technique of print making.

BACKGROUND OF INVENTION

5 Several proposals have previously been made for knurling tools. For example, U.S. Patent No. 1,151,829 to Schliker discloses a metal knurling tool including a forked tool having a bifurcated head, the forks of the head being bifurcated, metal ornamenting wheel tools journaled in the bifurcations of the forks, and a handle to one end of which the single bifurcated end of the head is adjustably pivotally connected. The head and the handle have
10 cooperating shoulders to limit the head in its extreme movement from one direction to an opposite direction, the single bifurcated end of the head being provided with a plurality of flat faces. A transverse thumb screw is carried by the handle to engage any one of the flat surfaces to hold the head in different positions.

 A further example, U.S. Patent No. 632,358 to Miller discloses a knurling tool
15 adapted to be used on a lathe. The tool includes a stock which is fixed on a carriage of a lathe and a plurality of knurls adjustably positioned on the stock and adapted to bear on substantially diametrically opposite points of the work.

OBJECTS AND SUMMARY OF INVENTION

20 A primary of object of the invention is to provide a tool for creating indentations in or on a surface.

A further primary object of the invention is to provide a hand tool for manually creating indentations in or on a metal surface.

A further primary object of the invention is to provide a hand operated knurling tool for preparing a metal plate to be used in the mezzotint technique of print making.

5 Another object of the invention is to provide a method for manually knurling a surface.

The various objects of the invention are accomplished by providing a tool including a rod having a length, a first handle connected with the rod, a second handle connected with the rod and a knurled member connected with the rod. The knurled member
10 preferably is a rotatable drum having a knurled surface. The rod can include a first portion connected with a second portion by a first bend, a third portion connected with a second portion by a second bend and a fourth portion connected with the third portion by a third bend. Preferably, the knurled member is connected with the fourth portion, and the first handle and the second handle are connected with the first portion. Further, each of the first
15 bend, the second bend and the third bend each form a substantially ninety degree angle such that the first portion, the second portion, the third portion and the fourth portion exist in one plane.

The objects of the invention are also accomplished by providing a hand tool including a cylinder having a knurled surface, a base connected with the cylinder, the base
20 being adapted and arranged to support the cylinder such that the cylinder can rotate, and at least two handles connected with the base, the at least two handles being adapted and arranged to allow pressure exerted against at least one of the at least two handles to be transmitted through the cylinder to a surface. The at least two handles can be integral with

or indirectly connected to the base. Preferably, the at least two handles include a first handle and a second handle, the first handle being connected about an end of the base opposite the cylinder, and the second handle being connected intermediate a length of the base. The base can include a first portion connected with a second portion by a first bend,
5 a third portion connected with the second portion bend by a second bend and a fourth portion connected with the third portion by a third bend. Further, the cylinder can be connected with the fourth portion, and the first handle and the second handle can be connected with the first portion.

The objects of the invention are further accomplished by providing a method of
10 manually rocking a plate to be used for print making. The method can include providing a tool having a knurled member, means of supporting the knurled member such that the knurled member can rotate and means of grasping the tool, contacting the knurled member with a surface of the plate, and rolling the knurled member about the surface of the plate. The means of supporting the knurled member can include an arm having a first portion
15 connected with a second portion by a first bend, a third portion connected with the second portion by a second bend and a fourth portion connected with the third portion by a third bend. Preferably, the knurled member is connected with the fourth portion, and the means of grasping the tool is connected with the first portion.

Further objects of this invention, as well as the novel features thereof, will become
20 more apparent by reference to the following description, taken in conjunction with the accompanying drawings.

BRIEF DESCRIPTION OF THE DRAWINGS

FIG. 1 is a perspective view of the preferred embodiment of the invention.

FIG. 2 is a side plan view of the present invention depicted in FIG. 1.

FIG. 3 is a perspective view of the bottom of the present invention depicted in
5 Fig. 1.

Fig. 4 is an exploded perspective view of the invention depicted in Fig. 1.

DETAILED DESCRIPTION AND PRESENTLY PREFERRED EMBODIMENTS

As illustrated in Figs. 1 through 4, the preferred embodiment of the present invention is a hand operated knurling tool 10 generally including a shaft 12, a first handle
10 14, a second handle 16 and a cylinder 18 having a roughed or knurled surface 20. Shaft 12 is formed from a metal rod having three of bends formed along the length of the rod which partition shaft 12 into four distinct sections. First handle 14 and second handle 16 are connected with shaft 12 at one end section while cylinder 18 is connected with the other end section of shaft 12.

15 More particularly, shaft 12 is formed from a single, solid steel rod having a first end 21 and a second end 23 and there between a first section 22, a second section 24, a third section 26 and a fourth section 28, each of first section 22, second section 24, a third section 26 and a fourth section 28 being defined from an adjacent section by a bend. Specifically, first section 22 is defined at one end by first end 21 and at another end by a
20 first bend 30. Second section 24 which is adjacent first section 22 is defined at one end by first bend 30 and at the other end by a second bend 32. Third section 26 which is adjacent second section 24 is defined at one end by second bend 32 and at the other end by a third bend 34. Fourth section 28 which is adjacent third section 26 and is defined at one end by

third bend 34 and at the other end by second end 23. Each of first bend 30, second bend 32 and third bend 34 is in the form of a right angle such that first section 22 and third section 26 run parallel to one another and perpendicular to second section 24 and fourth section 28. Likewise, second section 24 and fourth section 28 run parallel to one another and perpendicular to first section 22 and third section 26. In addition, first bend 30, second bend 32 and third bend 34 and first section 22, second section 24, third section 26 and fourth section 28 exist in a plane.

Rotatably connected about fourth section 28 is cylinder 18. More particularly, cylinder 18 is fashioned from a steel drum having a hole 36 running completely through the central portion of the length of cylinder 18. The outer surface of cylinder 18 is covered by knurled surface 20. A pair of plastic spacers 38, 40 having apertures 42, 44, respectively, there through are located on either side of cylinder 18 such that apertures 42, 44 are aligned with hole 36. Spacer 40 is spot welded to fourth section 28 so that cylinder 18 will not bind in third bend 34. Thus, to connect cylinder 18 with fourth section 28, aperture 42 followed by hole 36 and next aperture 44 are inserted about fourth section 28. This way spacers 38, 40 and cylinder 18 are supported by fourth section 28 in a manner that allows cylinder 18 to freely rotate about fourth section 28. To maintain spacers 38, 40 and cylinder 18 on fourth section 28, a notch 46 is formed completely through fourth section 28 immediately adjacent second end 23. Notch 46 is adapted to receive a locking pin 48 which together with third bend 34 maintains cylinder 18 on fourth section 28.

To allow a user to manipulate knurling tool 10, first handle 14 and second handle 16 are connected with first section 22 as illustrated. Specifically, first handle 14 includes a first passage 50 partially through the center of the length of the handle. First passage 50 is

adapted to receive and firmly hold therein first end 21 and a portion of first section 22. Second handle 16, on the other hand, is connected with first section 22 using a second shaft 52. Second shaft 52 is formed from a steel rod having a third end 53 and a fourth end 55. A fifth bend 54 is fashioned along the length of second shaft 52 thus creating a fifth section 56 and a sixth section 58 of second shaft 52. Third end 53 of second shaft 52 is welded to first section 22 intermediate the length of first section 22. Second handle 16, like first handle 14, includes a second passage 60 adapted to receive and firmly hold therein fourth end 55 and a portion of sixth section 58. First handle 14 and second handle 16 are made from wood.

To use knurling tool 10, a user grasps first handle 14 and second handle 18, one in each hand, contacts knurled surface 20 of cylinder 18 to a surface to be treated, exerts a sufficient amount of pressure to second handle 16 that the surface to be treated receives indentations from knurled surface 20, and moves cylinder 18 across the surface to be treated using first handle 14 and second handle 16 to guide knurling tool 10.

While I have described my invention in connection with a specific embodiment thereof, it is to be clearly understood that this is done only by way of example, and not as a limitation to the scope of my invention, as set forth in the objects thereof and in the appended claims.